

CLAIMS

1. A communications system comprising first and second beacon devices and at least one portable device each capable of wireless message transmission and reception, wherein said at least one portable device is arranged to broadcast an inquiry message according to a first communications protocol, wherein said first beacon device is arranged to detect such an inquiry message and transmit a reply making available to one of said second beacon and said portable device an address or identifier for the other, and wherein said second beacon and portable device are configured to perform a service interaction when triggered by the making available of said address or identifier.

2. A system as claimed in Claim 1, wherein said reply comprises an inquiry response message, including said address for said second beacon, sent from said first beacon to said portable device.

3. A system as claimed in Claim 1, wherein said reply comprises firstly a notification message, including an identifier for said portable device, sent from said first beacon to said second beacon and, secondly, an inquiry response message, including said address for said second beacon, sent from said second beacon to said portable device.

4. A system as claimed in Claim 1, wherein said reply comprises firstly a further inquiry message of the first beacon to the portable device, secondly an inquiry response message including an identifier for the portable device and sent from the portable device to the first beacon, and thirdly a notification message, including said identifier for said portable device sent from said first beacon to said second beacon.

5. A system as claimed in Claim 1, comprising a plurality of second beacon devices, wherein the first beacon is arranged to select one of said

second beacons whose address is to be made available to the portable device.

5 6. A system as claimed in Claim 5, wherein at least one of said plurality of second beacon devices is operable to transfer an ongoing service interaction with said portable device to a further second beacon device.

10 7. A system as claimed in Claim 6, wherein the selection of said further second beacon device is made by said first beacon device.

15 8. A system as claimed in Claim 6, wherein the selection of said further second beacon device is made by the second beacon device performing the ongoing service interaction.

20 9. A system as claimed in Claim 3, further comprising a secure data channel linking said first and second beacon devices and for the transmission of said notification messages.

25 10. A system as claimed in Claim 1, wherein the second beacon device maintains and periodically updates a list of identifiers for portable devices with which a service interaction is being performed.

30 11. A system as claimed in Claim 1, wherein the or each inquiry message is in the form of a plurality of data fields arranged according to said first communications protocol, wherein the portable device is further arranged to add to each inquiry message prior to transmission an additional data field, and wherein the first beacon device is arranged to receive the transmitted inquiry messages and read data from said additional data field.

 12. A system as claimed in Claim 1, wherein said first communications protocol comprises Bluetooth messaging.

13. A mobile communications device for use in the system of Claim 1, comprising a transmitter operable to broadcast said inquiry message, data processing means controlling operation of the same, and a receiver capable of receiving at least a part of said reply, said data processing means supporting said service interaction via said transmitter and receiver.

14. A mobile communication device as claimed in Claim 13, the device receiver being capable of receiving a short-range wireless inquiry message, the data processing means being operable to process data contained within said message and compose a response message including an identifier for the device, and said transmitter being configured to wirelessly transmit said composed response message to the source of the inquiry message.

15. A communications infrastructure for use in the communications system of Claim 1, the infrastructure comprising first and second beacon devices, said beacon devices being capable of wireless message transmission to, and reception from, said at least one portable device, wherein said first beacon is arranged to listen for broadcast of an inquiry message according to a first communications protocol, on detection of such an inquiry message to transmit a reply making available to one of said beacon and said portable device an address or identifier for the other, and wherein said second beacon is configured to perform a service interaction with said portable device when triggered by the making available of said address or identifier.

16. A communications infrastructure as claimed in Claim 15, wherein said reply comprises an inquiry response message, including said address for said second beacon, sent from said first beacon to said portable device.

17. A communications infrastructure as claimed in Claim 15, wherein said reply comprises firstly a notification message, including an identifier for said portable device, sent from said first beacon to said second beacon and,

secondly, an inquiry response message, including said address for said second beacon, sent from said second beacon to said portable device.

18. A communications infrastructure as claimed in Claim 15, wherein
5 said reply comprises firstly a further inquiry message of the first beacon to the portable device, secondly an inquiry response message including an identifier for the portable device and sent from the portable device to the first beacon, and thirdly a notification message, including said identifier for said portable device sent from said first beacon to said second beacon.

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19. A communications infrastructure as claimed in Claim 15, further comprising a plurality of second beacons.

20. A communications infrastructure as claimed in Claim 19, further
15 comprising message management means operable to initiate and effect handover of an ongoing message transmission session from one of said plurality of second beacons to another.

21. A method for enabling the user of a portable communications
20 device to perform a service interaction with a beacon device in an environment containing at least first and second beacon devices capable of wireless message transmission and reception, wherein said portable communications device broadcasts an inquiry message according to a first communications protocol, the first beacon device detects such inquiry message and transmits a
25 reply making available to one of the portable device and second beacon device an address or identifier for the other, and the second beacon and portable device perform said service interaction when triggered by the making available of said address or identifier.

22. A method as claimed in Claim 21, wherein said reply comprises
30 an inquiry response message, including said address for said second beacon, sent from said first beacon to said portable device.

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23. A method as claimed in Claim 21, wherein said reply comprises firstly a notification message, including an identifier for said portable device, sent from said first beacon to said second beacon and, secondly, an inquiry response message, including said address for said second beacon, sent from
5 said second beacon to said portable device.

24. A method as claimed in Claim 21, wherein said reply comprises firstly a further inquiry message of the first beacon to the portable device,
10 secondly an inquiry response message including an identifier for the portable device and sent from the portable device to the first beacon, and thirdly a notification message, including said identifier for said portable device sent from said first beacon to said second beacon.

25. A method as claimed in Claim 21, wherein the second beacon
15 device maintains and periodically updates a list of identifiers for portable devices with which a service interaction is being performed.

26. A method as claimed in Claim 21, wherein said inquiry messages
20 are each in the form of a plurality of predetermined data fields arranged according to said first communications protocol, wherein the portable communications device adds to each inquiry message prior to transmission an additional data field carrying broadcast message data, and wherein the first beacon device receives the transmitted inquiry messages and reads the
25 broadcast data from said additional data field.

27. A method as claimed in Claim 26, wherein the portable
communications device adds said additional data field at the end of a
respective inquiry message.